

Report of the 2012 Inter-sessional Science Board Meeting

Science Board met in Busan, Korea from 14:00–18:00 on May 24 and all day on May 25, 2012. Science Board Chairman, Dr. Sinjae Yoo, welcomed members and guests, and introductions were made (*ISB Endnote 1*). The draft agenda (*ISB Endnote 2*) was reviewed and a proposal for a PICES summer school in China was added to Agenda Item 13 on “Capacity building”. Agenda Item 7 on “Expert groups with issues” was discussed first to accommodate the schedules of invited guests. It was decided that Agenda Item 9 on “Committee Action Plans” would be discussed as the last item of business.



Science Board members, front row 1 to r: Alexander Bychkov (PICES Secretariat), Hiroaki Saito, Toru Suzuki, Mitsutaku Makino (invited), R. Ian Perry (invited); (back row 1 to r) Fangli Qiao, Kyung-Il Chang, Hiroyuki Shimada (F&A), Igor Shevchenko, Thomas Theriault, Sinjae Yoo, Atsushi Tsuda, Libby Logerwell, Lev Borcharov (PICES Chairman), Hiroyuki Sugisaki, Patricia Livingston (F&A), Skip McKinnell (PICES Secretariat).

Thursday, May 24, 2012

AGENDA ITEM 2

Expert groups with issues

Section on Harmful Algal Blooms (S-HAB)

Co-Chair of the Section on *Harmful Algal Blooms* (S-HAB), Dr. Vera Trainer, briefly reviewed the Section’s major accomplishments. These included joining the PICES HAB database with that of ICES to produce PICES/ICES HAE-DAT, and capacity building in the form of training sessions to detect and monitor HABs in countries undergoing economic transition in the Pacific. Terms of reference (TOR) were revised to align with FUTURE. Science Board members made suggestions for further revision and recommended the revised TORs be circulated to S-HAB members for comment before being re-submitted to Science Board for review at least one month prior to PICES-2012.

Current problems in S-HAB that require action included: finding Chinese experts who can contribute to HAE-DAT, and an imbalanced sharing of the co-chairmen’s workload in the section. Dr. Trainer requested assistance from Science Board. The present definition of HABs will be changing in the future to include nutritionally inadequate species. To be proactive in this change and to better contribute to the objectives of FUTURE, Dr. Trainer announced that S-HAB will discuss changing its name at PICES-2012. The change would also entail recruiting new members, including potential Chinese members, Drs. Chunjiang Guan and Douding Lu (requested at PICES-2011) and jellyfish expert, Dr. Song Sun.

S-HAB member, Dr. Mark Wells, described plans for a major international workshop on “*Harmful algal blooms in a changing world*” as was recommended by the IOC Panel on Harmful Algal Blooms (IPHAB) resolution IPHAB-X.6, but due to funding limitations, he proposed holding a smaller workshop in 2013 composed of not more than 10 HAB experts to identify unresolved issues that limit the advances in understanding how projected climate change may influence HAB events. Dr. Wells asked Science Board to recommend supporting three participants from PICES to attend the workshop. In the meantime, he was waiting for a reply on funding from the National Science Foundation to understand what level of support would be available from this U.S. source for a workshop.

Action:

- Dr. Qiao to convey requests for HAEDAT experts, and potential Chinese members to appropriate channels.
- Dr. Chang to convey Dr. Trainer’s need for greater assistance from Dr. Changkyu Lee.
- Dr. Trainer to submit revised S-HAB terms of reference to Science Board by September 10, 2012.

AGENDA ITEM 3

Interactions with other organizations

SCOR

Seven proposals for new SCOR Working Group were presented to Science Board for potential co-sponsorship by PICES. Each proposal was assigned to one or more PICES Committees according to relevancy. Science Board Chairman asked Committee Chairmen to review relevant proposals with their members and to rank them as high, medium or low priority for PICES participation.

Action: Committee Chairmen to provide rankings to Dr. Yoo by July 31.

UN Regular Process (UNRP for Global Reporting and Assessment of the State of the Marine Environment)

At PICES-2011, Governing Council instructed the Executive Secretary to send a letter to the Director of the Division for Ocean Affairs of the UNRP expressing an interest by PICES scientists to conduct peer reviews of regional assessments conducted in the region of primary concern to PICES. The offer was declined subsequently.

Dr. Skip McKinnell was an observer at the *Workshop for Eastern and South-eastern Asian Seas, under the auspices of the United Nations, in support of the Regular Process for global reporting and assessment of the state of the marine environment, including socio-economic aspects*, hosted by the State Oceanic Administration and the Ministry of Foreign Affairs of the Peoples Republic of China in Sanya City from February 21–23, 2012. It was a workshop to determine what resources, including existing assessments, were available in the region to undertake the regional assessment. Under agenda item 5 on *Overview of the existing regional assessments*, Dr. Chul Park (Korea) gave a presentation on the PICES approach to status and trend reporting in the North Pacific. A majority of the participants were non-scientists. Capacity building featured prominently in the agenda. As there is little opportunity for regional international organizations to participate in the process, Science Board agreed to not pursue the matter further.

Intergovernmental Panel on Climate Change request for review

A request came to Dr. McKinnell from one of the lead authors of Chapter 30 of the IPCC’s 5th Assessment Report to review draft text on a section of the chapter entitled “High latitude spring bloom regions.” In response, Dr. McKinnell proposed that the review might be expanded to include members of the BIO Committee. The proposal was accepted. BIO Chairman, Dr. Atsushi Tsuda, and Vice-Chairman, Dr. Michael Dagg assembled comments from BIO members and Dr. McKinnell and prepared a response. Science Board agreed unanimously that it was a great opportunity for the Organization to become involved and to offer PICES services as reviewers for IPCC.

Action: Secretariat to explore options for PICES to be involved in the review process for the IPCC AR5.

AGENDA ITEM 4

Status of proposed publications

Science Board reviewed a list of recent and anticipated publications. It was noted that selected papers from the 26th Lowell Wakefield Symposium on “*Ecosystems 2010: Global progress on ecosystem-based fisheries management*” with guest editors, G. Kruse, P. Livingston, C.-I. Zhang and G. Jamieson should be added to the list. The issue of the still-unpublished CFAME Task Team report for the PICES Scientific Report series was discussed. It was noted that despite considerable time elapsing since CFAME was disbanded, its report was still of value and its completion should be encouraged. Science Board also felt it would be worthwhile to have access to the final presentation of Study Group on *PICES Communication* outlining its recommendations.

Action:

- Dr. Batchelder to contact Dr. Kerim Aydin to discuss status of the CFAME report
- Secretariat to put a link to the SG-COM report presentation

AGENDA ITEM 5

Status of proposed inter-sessional workshops/symposia

(a) Inter-sessional workshops/symposia

Science Board reviewed the list of PICES-sponsored meeting, symposium and workshops that will take place in 2012. As Dr. Yoo was not able to attend, he called for a volunteer, preferably from Korea or Japan, to attend an IMBER/APN/PICES sponsored workshop on “*Needs assessment for capacity development for integrated marine biogeochemistry and ecosystem research in the Asia-Pacific region*”. Dr. Mitsutaku Makino offered to represent PICES at the meeting, pending approval from his institution.

Action: Dr. Yoo to write a letter to the director of the National Research Institute of Fisheries Science, requesting Dr. Makino’s presence at the workshop.

(b) Co-sponsoring sessions and deadlines for joint PICES/ICES meetings

Science Board discussed whether PICES needed to engage ICES sooner than the second week of September to exchange lists of proposed topic sessions and workshops at each other’s annual meetings. There was difficulty getting responses from some Committee/FUTURE-AP members about sessions to co-sponsor and/or suggestions for PICES convenors. It was decided that sufficient time was given to Committee/FUTURE Chairs to get input from their members, and that it was up to the Chairs to ensure the deadline was not missed.

(c) New proposals to co-sponsor inter-sessional workshops/symposia

Science Board agreed that PICES should co-sponsor the 8th International Conference on Marine Bioinvasions to be held August 2013 in Vancouver, Canada, and IMBER’s IMBIZO III to be held January 28-31, 2013 in Goa, India. PICES has co-sponsored these activities previously and recommended support at levels as in past meetings. Science Board will recommend that PICES be a co-sponsor of the next International Symposium on the “*Effects of climate change on the world’s oceans*” to take place in Brazil in 2016.

The 7th International Fisheries Observer and Monitoring Conference (April 8-12, 2013, Viña del Mar, Chile) and the 28th Wakefield Fisheries Symposium (March 26-29, 2013, Anchorage, USA) were brought to the attention of Science Board. FIS did not support PICES sponsorship of the former because PICES should concentrate on supporting symposia that advance marine science. The 2013 Wakefield Symposium has a focus on the Arctic. As neither of these events was centred on priority areas for PICES, Science Board was not prepared to recommend PICES as a co-sponsor.

ISB-2012

Introduced under Agenda Item 4, Science Board was not prepared to recommend supporting a workshop on “*HABs in a changing world*”, to be organized by Drs. Mark Wells (PICES) and Bengt Karlson (ICES), until more details about the contributions of other potential co-sponsors became available.

Dr. Batchelder introduced the “Belmont Forum and G8 Research Councils Initiative on Multilateral Research Funding International Opportunities” as an excellent opportunity for PICES to be involved in research in areas of coastal vulnerability.

Action: Drs. Perry and Makino to contact potential academics in PICES countries currently involved in the Initiative to prepare pre-proposals for submission to NSF by closing date of July 20, 2012.

(d) *Upcoming ICES symposia for potential PICES co-sponsorship*

Dr. Yoo asked Committee/FUTURE Chairs to discuss with their members upcoming ICES symposia listed on the ICES website that might be relevant to PICES.

Action: Committee/FUTURE Chairs to bring any recommendations on PICES co-sponsorship of ICES symposia for discussion at PICES-2012.

Friday, May 25, 2012

AGENDA ITEM 6 (CONTINUED)

Expert groups with issues

Working Group on *Environmental Interactions of Marine Aquaculture* (WG 24)

Science Board agreed that the final report of WG 24 would not be complete without China’s contribution. Dr. Fangli Qiao, representing China, informed Science Board that, so far, the response from China was not good, but that he would try again to contact the three WG members from CAFS/MOA and one member from SOA to encourage China’s report. WG 24’s proposal to establish a new study group on aquaculture was not supported by the FIS Committee who felt that, with an incomplete final report, the topic could be dealt with through a topic session or workshop at a PICES Annual Meeting.

Recommendation:

- Science Board does not recommend the establishment of a new study group on aquaculture;
- allow Dr. Qiao time to work with the Chinese members of WG 24, and if unsuccessful, publish an incomplete final report electronically.

AGENDA ITEM 7

Report on newly formed expert groups

Due to the recent termination of the marine pollution research function in Fisheries and Oceans Canada, an inter-sessional report by Dr. Ross, Chairman of the Study Group on *Marine Pollutants*, was not available for Science Board to review. Considering the sensitive nature of the circumstances, Science Board decided to wait for a reasonable amount of time to pass before inquiring about the report.

Action: Secretariat to forward a request to Dr. Ross through his Division Head, Mr. Robin Brown.

As the Committee/FUTURE Chairs were also present at the preceding FUTURE roadmap workshop (May 22–24) in which presentations or discussions were conducted by the Co-Chair of the Section on *Human Dimensions of Marine Systems*, Dr. Mitsutaku Makino, and Co-Chair of the Section on *Climate Change Effects on Marine Ecosystems*, Dr. Anne Hollowed, no further discussion on these reports took place at the meeting.

AGENDA ITEM 8

New PICES project

Dr. Ian Perry, one of the Principal Investigators of the proposed PICES project on “*Marine ecosystem health and human well-being (sato-umi)*” that will be supported by incremental funding from the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF), asked for Science Board’s approval to start the activity after presenting a set of principles which would include identifying the relationships between sustainable human communities and productive marine ecosystems in the North Pacific under the concept of fishery social-ecological systems and would link directly with the FUTURE research theme on “How do human activities affect coastal ecosystems and how are societies affected by changes in these ecosystems?” The project would integrate, support and expand the activities of several PICES expert groups, including the Section on *Human Dimensions of Marine Systems*, Working Group (WG 28) on *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors*, Working Group (WG 24) on *Environmental Interactions of Marine Aquaculture*, and Working Group (WG 21) on *Non-indigenous Aquatic Species*. Science Board agreed that the project would make a very important contribution to FUTURE and agreed with the overall principles. Given the relatively broad scope of project, Science Board requested that “sato-umi” (a specific form of human-marine ecosystem relationship) be removed from the title of the project. Science Board endorsed Drs. Perry and Makino as the Principal Investigators. They will develop a project team and hold their first meeting at PICES-2012. Science Board reminded Drs. Perry and Makino to have a list of members in place before PICES-2012.

Action:

- Drs. Perry and Makino to have a membership list in place before PICES-2012.

AGENDA ITEM 9

Mid-year reports from Scientific and Technical Committees

Brief highlights of Committee and expert group activities since PICES-2011, and any requests, are provided below. Discussion of Committee Action Plans was deferred to Agenda Item 20.

Biological Oceanography Committee (BIO)

BIO Chairman, Dr. Atsushi Tsuda, announced that BIO agreed to be a co-parent committee, along with POC, of the Working Group on *Regional Climate Modeling* (WG 29). BIO requested that WG 29 be augmented to add one or two biologists, and some activity that is focused on issues of importance to the BIO Committee.

BIO’s review of a section on “High-latitude spring bloom regions” for Chapter 30 of the IPCC WG2 AR5 report was favourably received by one of the IPCC chapter lead authors.

BIO is sponsoring/co-sponsoring 4 topic sessions, a contributed paper session and 4 workshops at PICES-2012. All convenors were in place.

A draft of the final report of the Working Group on *Iron Supply and its Impact on Biogeochemistry and Ecosystems in the North Pacific Ocean* (WG 22) was sent by WG 22 Co-Chairman, Dr. Fai Chai, to Dr. Tsuda just prior to the inter-sessional Science Board meeting, and has not yet been distributed to BIO members for review. BIO will finalize the report by end of June so publication in the PICES Scientific Report series can proceed. The final report of the Working Group on *Comparative Ecology of Krill in Coastal and Oceanic Waters around the Pacific Rim* (WG 23) will be finished by the end of the summer. An article on the formation of the Working Group on *Jellyfish Blooms around the North Pacific Rim: Causes and Consequences* (WG 26) at PICES-2011 was published in the Winter issue of PICES Press (2012, Vol. 20, No. 1). The WG has already reviewed an outline for its final report, and Dr. Tsuda invited Science Board to provide any comments. A topic session (S7) dedicated to “*Jellyfish in marine ecosystems and their interactions with fish and fisheries*” will be held at PICES-2012. Working Group on *Development of Ecosystem Indicators to Characterize*

Ecosystem Responses to Multiple Stressors (WG 28) Co-Chairs, Drs. Ian Perry and Motomitsu Takahashi, are actively preparing a framework and template to map stressors and sensitive habitats for common use in comparing PICES regions. The framework includes: 1) setting the scene, 2) identification of the component habitats, 3) identification of stressors, and 4) ranking each habitat according to its vulnerability to each stressor. A topic session (S10) and workshop (W1) related to WG 28 will be held at PICES-2012.

The Section on Carbon and Climate (S-CC) completed its second level Quality Control and opened the PACIFICA database for public use. Drs. James Christian and Kitack Lee were co-convenors of the theme session (S10) on “*Changes in the marine carbon cycle*” at the 2nd International Symposium on “*Effects of climate change on the world’s oceans*” (May 13–20, 2012, Yeosu, Korea). The Section is in the process of making contributions to the IPCC AR5. Dr. Richard Feely (USA) is a lead author for Chapter 3 (Observations: Oceans) and Dr. Christopher Sabine (USA) for Chapter 6 (Carbon and Other Biogeochemical Cycles). Several members from the Section are contributing authors/expert reviewers or are preparing manuscripts for submission prior to the July 31 deadline.

A subset of The Marine Ecosystem Model Inter-Comparison Project (MEMIP) investigators (Drs. Hal Batchelder, Yvette Spitz, Angelica Peña, and Jerome Fiechter) met from March 26-30, 2012 for a workshop in Corvallis, USA, to work out key steps needed to complete the model intercomparison and model-data comparisons of two test beds (Newport and GAK lines). The investigators hope to have runs for the two North Pacific coastal systems successfully before PICES-2012.

The Advisory Panel on Marine Birds and Mammals (AP-MBM) is making progress on a new activity in re-evaluating and updating prey consumption by marine birds and mammals and predatory fish that started after PICES-2011.

Fishery Science Committee (FIS)

FIS Chair, Dr. Libby Logerwell, reported that she received input from members from all PICES countries except China on suggestions for approaches to incorporate aquaculture science into PICES more effectively. The suggestions included the use of topic sessions, workshops and international symposia rather than establishing expert groups. It was also acknowledged that the primary interests of each member country with regard to aquaculture are different and that one reason for the lack of success in fulfilling objectives was that the WG tried to cover a broad range of topics (capacity, technology, disease, risk assessment, *etc.*). One committee member suggested that non-feeding culture of oyster, clam, scallop and seaweed is affected by oceanographic events and anthropogenic forcing such that understanding the relationship between fluctuations of aquaculture productivity and oceanographic environment would contribute to the goals of AP-AICE (of FUTURE). FIS did not show strong support for the formation of a study group until WG 24 had submitted its final report with recommendations.

FIS is co-sponsoring 5 topic sessions, and sponsoring a contributed paper session at PICES-2012. All convenors were in place.

FIS ranked SCOR Working Group proposals for PICES affiliate status and placed Working Group to identify Ecosystem Essential Ocean Variables for measuring change in the biological properties of marine ecosystems and a Working Group on Marine ecosystem reorganisation under climate change as the two highest. PICES was invited to be an observer at the 12th meeting of the International Scientific Committee for Tuna and Tuna-like Species to be held July 18-23, 2012, in Sapporo, Japan. FIS member, Dr. Toyomitsu Horii will represent PICES at the meeting.

A special issue of the journal *Fisheries Research* (112: 105–188), edited by P.A. Livingston, G.H. Kruse and L. Richards was published in December 2011 stemming from the PICES 2009 Topic Session (S2) on “*Ecosystem-based approaches for the assessment of fisheries under data limited situations*”. Proceedings of the PICES co-sponsored symposium on “*Ecosystems 2010: Global progress on ecosystem based fisheries*

management” is in the final stages of production. This symposium was convened November 8–11, 2010, in Anchorage, Alaska, USA and was also co-sponsored by ICES, FAO, and a host of regional organizations (NMFS, ADF&G, *etc.*). It is being published as a book by the University of Alaska Sea Grant.

Marine Environmental Quality Committee (MEQ)

Because of the sudden announcement (May 15) by MEQ Chairman, Dr. Steve Rumrill, that he cannot continue to be involved in PICES activities, an MEQ report was not prepared for Science Board. As the last two Chairmen were from the eastern Pacific, the Science Board Chairman suggested that MEQ consider nominating/electing a representative for China. According to the Rules of Procedure, Dr. Makino (Vice-chairman) was asked to take over the chairman’s duties until elections could be run before or at PICES-2012. Executive Secretary, Dr. Alexander Bychkov, stated that the Secretariat would try to lighten the burden on Dr. Makino. Several MEQ Committee membership problems were noted: of the two U.S. members, one newly appointed member has not previously been involved in the marine environmental quality field; Canada has only two members, and Russia one.

Action:

- Dr. Makino to serve as Chairman until an election can be held.
- Science Board to discuss potential candidates by correspondence
- Secretariat to issue a formal request to the U.S. national delegate for a U.S. member to replace Dr. Rumrill

Physical Oceanography and Climate Committee (POC)

POC Chairman, Dr. Kyung-II Chang, reported that its subsidiary bodies, Section on *Climate Change Effects on Marine Ecosystems* (S-CCME), Section of *Carbon and Climate* (S-CC), and Working Group on *Regional Climate Modeling* (WG 29) were actively represented by Enrique Curchitser and Chan Joo Jang (WG 29), Suam Kim and Anne Hollowed (S-CCME), and James Christian (S-CC) at the FUTURE roadmap workshop (May 22-24, Busan, Korea) preceding this meeting. Dr. Emanuele Di Lorenzo (WG-27) attempted to participate remotely but the connection was lost.

Dr. Curchitser was a co-convenor of the Topic Session (S3) on “*Projections of climate change impacts on marine ecosystems and their uncertainty*” and Workshop (W2) on “*Climate change projections for marine ecosystems: Best practice, limitations and interpretations*”, and Dr. Kyung-Ryul Kim (AP-CREAMS) was a general plenary speaker on “*Recent advances in studies for East Sea (Sea of Japan), a miniature test ocean for global changes*” at the 2nd International Symposium on “*Effects of climate change on the world’s oceans*” (May 13–20, 2012, Yeosu, Korea).

AP-CREAMS had an inter-sessional meeting (May 18, 2012, Yeosu, Korea) to discuss national reports and activities. The EAST-II region was extended to include the Yellow Sea. A supplementary chapter of the second North Pacific Ecosystem Status Report (PICES Special Publication No. 4, 2010) developed by AP-CREAMS and endorsed by Science Board at PICES-2011 was reviewed by MONITOR and AP-SOFE. The reviews identified the areas that need further editing. AP-CREAMS requested a permission to take on the editing themselves along the guidance of MONITOR and SOFE and Science Board approved the request. The Science Board Chairman reminded Science Board that is the chapter was an important document produced by many scientists, and he would make every effort to get it published in time. Science Board was advised that NOWPAP is considering holding another training course on remote sensing in China in 2013 and that NOWPAP would be approaching PICES to be a co-sponsor. AP-CREAMS is planning to propose a CREAMS/PICES Summer School on “*Ecosystem modelling*” in 2014.

The Section on *Carbon and Climate* is supervised jointly by POC and BIO and its activities can be found above under the BIO mid-year report.

Drs. Emanuele Di Lorenzo and Shoshiro Minobe (WG 27) and Jacquelynne King (AP-COVE) are organizing and international workshop, along with US-GLOBEC and ICES, on “*Forecasting ecosystem indicators with climate-driven process models*” to be held September 8-10, 2012 in Friday Harbor, USA.

Drs. Shoshiro Minobe (WG 27) and Hiroaki Saito (AP-COVE) attended the CLIVAR Pacific Implementation Panel Meeting April 28–29, 2012, in Noumea, New Caledonia, to speak about PICES activities and seek closer collaboration with CLIVAR as it widens its scope on issues relevant to PICES (and IMBER). CLIVAR is co-sponsoring (along with ICES) a Topic Session (S3) on “*Challenges un understanding Northern Hemisphere ocean climate variability and change*” at PICES-2012.

POC supported the seeking affiliate member status for the proposed SCOR Working Group on Surface Waves in Ocean Circulation and Climate System, should it be formed.

POC is sponsoring/co-sponsoring 6 topic sessions and a contributed paper session at PICES-2012. All convenors are in place.

Technical Committee on Monitoring (MONITOR)

MONITOR Chairman, Dr. Hiroya Sugisaki, announced that the second Global Alliance of Continuous Plankton Recorder Surveys (GACS) workshop will take place in Paris, France, in September 2012. Dr. Sonia Batten (AP-CPR) is the Vice-Chair of GACS. The SAHFOS-Japan research program to analyze Western Pacific CPR samples is progressing well. Dr. Sanae Chiba (AP-CPR) is the principal investigator and she was also a speaker and panel member at the international NPAFC-led workshop on “*Explanations for the high abundance of pink and chum salmon and future trends*” co-sponsored by PICES (October 30-31, 2011, Nanaimo, Canada).

MONITOR is continuing its collaboration with ICES GOOS groups. Unfortunately, it could not send a representative to the workshop ICES workshop to “*Define the ocean observing needs for ICES*” held February 29–March 2, 2012 in Copenhagen, Denmark, and former Chairman of SG-ICES GOOS, Dr. Jon Hare, took the responsibility to discuss MONITOR activities in PICES.

MONITOR is co-sponsoring 2 topic sessions at PICES-2012.

MONITOR and AP-SOFE reviewed the supplementary chapter for the second North Pacific Ecosystem Status Report and requested AP-CREAMS to revise the chapter to address some imbalances. MONITOR and SOFE both agreed that the chapter will need a great deal of editing.

Recommendation: Science Board recommends AP-CREAMS to do the editing of the supplementary chapter of NPESR II based on MONITOR’s and SOFE’s recommendations.

Technical Committee on Data Exchange (TCODE)

TCODE Chairman, Dr. Toru Suzuki, attended the Technical Workshop on the IODE Ocean Data Portal February 20–22, 2012, in Oostende, Belgium. He requested the organizers to change the date of the IODE GE-BICH workshop (IOC/IODE Group of Experts on Biological and Chemical Data Management and Exchange Practices), provisionally scheduled for October 15–18, 2012 in Oostende, Belgium, so it would not overlap with PICES-2012.

Besides continuing to support, coordinate, and identify PICES data and information products for MONITOR, FUTURE, and a number of PICES expert groups, TCODE was preparing to register metadata of WG 21’s database on non-indigenous marine and estuarine species in the North Pacific and WG 23’s database on krill.

TCODE is co-sponsoring a topic session at PICES-2012. Ms. Lynn M. deWitt (USA) has replaced Dr. Thomas Royer as TCODE member.

AGENDA ITEM 10

Presentation and discussion of current status of the FUTURE APs

Due to the absence of AP-SOFE Chairman, Mr. Robin Brown, Drs. Thomas Therriault (AP-AICE) and Hiroaki Saito (AP-COVE) felt it appropriate to defer discussion of FUTURE Chairmen rotating off until PICES-2012. In the meantime, Dr. Therriault reported on the general lack of participation by some members of AP-AICE although participation increased nominally at PICES-2011 and substantially (6 of 7 members present) at the FUTURE roadmap workshop preceding this meeting. Dr. Saito informed Science Board that, of the 6 expert groups formed after ISB-2011 and PICES-2011, 4 of them, Working Group on *North Pacific Climate Variability and Change* (WG 27), Working Group on *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors* (WG 28), and Working Group on *Regional Climate Modeling* (WG 29) were COVE-related, and that the terms of reference for these groups were well aligned with the FUTURE Science Plan and Implementation Plan. Six of 7 AP-COVE members attended the FUTURE roadmap inter-sessional workshop (including one member who attempted to participate using electronic communication). In general, communication with members was satisfactory. Dr. Saito stated that AP-COVE was actively collaborating with the IMBER and CLIVAR programs and with ICES, and presented a list of 24 projects that were taking place in PICES member countries which were COVE-related.

Action: Science Board to discuss FUTURE Chairmen rotation at PICES-2012.

AGENDA ITEM 11

Implementation of Science Board recommendations and Governing Council decisions from PICES-2011

Science Board reviewed the list of recommendations made by Science Board at PICES-2011 in Khabarovsk, Russia, and subsequent decisions by Governing Council. Dr. Makino pointed out that FUTURE needed to be added as a co-sponsor to the MEQ-sponsored Topic Session on “*Social-ecological systems on walleye pollock and other commercial gadids under changing environment: An inter-disciplinary approach*” in Science Board decision 2011/S/1 for the 2012 PICES Annual Meeting.

Action: Secretariat to make sponsor correction.

AGENDA ITEM 12

Status of planning for PICES-2012, Hiroshima, Japan

The Executive Secretary informed Science Board that the venue for the events, the International Conference Center in Hiroshima, was suitable, with the facilities being able to hold 9 parallel events. However, one small logistical problem was that there were 10 meetings scheduled for October 12 and 13, so one meeting will take place at a hotel. POC Chairman, Dr. Chang, voiced his concern about two POC-sponsored topic sessions and a POC contributed paper session running concurrently. Dr. Sugisaki requested the AP-CPR meeting be moved from its current time slot of 18:00 h to Saturday morning or late evening. It was agreed that Dr. Rumrill should not be identified as a co-convenor.

Dr. Sugisaki asked PICES to consider co-sponsoring an international workshop on the “Recruitment of juvenile Japanese eel (*Anguilla japonica*) in eastern Asia” by advertising it on the PICES website and holding it in association with PICES-2012. This would give scientists from PICES countries a chance to attend the workshop while at the PICES Annual Meeting.

Dr. McKinnell proposed a streamlined method of submitting, evaluating, and managing proposals for topic sessions and workshops through the PICES website. It would provide a seamless, transparent, and comprehensive approach and improve the efficiency of evaluating and ranking the proposals. Science Board fully endorsed the pilot, and offered suggestions to improve the proposal submission and evaluation process.

The pilot will run for one year to evaluate its effectiveness. Submissions for PICES-2013 will close September 7, 2012 followed by a period of about 3 weeks to allow Committee members to evaluate (vote on) proposals. The Secretariat will prepare a table of proposals with rankings by Committee/FUTURE members. Results of voting by other Committees will be available for comparison, and the results of FUTURE AP members will be summarized in the same manner for comparison with the other Committees.

Action:

- Secretariat to move the POC paper session and AP-CPR business meeting to another time slot;
- Secretariat to remove Dr. Rumrill's name from the co-convenor list for the Science Board Symposium (S1) and the FIS/MEQ co-sponsored topic session S9;
- Dr. Sugisaki to provide the names of the convenors and invited speakers of the eel workshop;
- Secretariat to incorporate 'maybe' to the voting choice, to add a comment field to accommodate co-sponsorship by an organization/program, and prepare a table after receiving all proposals.

AGENDA ITEM 13

Capacity building/Plan for PICES summer school in 2013 and beyond

Early Career Scientist conferences

Dr. McKinnell reported that the PICES/ICES Early Career Scientist Conference on “*Oceans of change*” (April 24–27, 2012, Palma de Majorca, Spain), organized with Dr. Adi Kellermann (ICES) was a huge success, with excellent presentations from 130 participants selected from 550 applicants. He presented a general overview of how the past two conferences have been organized, noting especially the benefits of an enthusiastic local organizer, and suggested that since previous conferences have taken place in North America and in Europe, perhaps the next one could take place in Asia. Science Board agreed to defer a decision to the Annual Meeting.

Action: Science Board to discuss an Early Career Scientist Conference to tentatively take place in Asia at PICES-2012.

Training courses and summer schools

Dr. Fangli Qiao announced that China hosted the first successful UNESCO/IOC ODC (Ocean Dynamics and Climate) training course in 2011 in Qingdao. China was prepared to host the next training course on (tentatively) air–sea interaction in 2013 and PICES was invited to be a co-sponsor. Science Board agreed to discuss the proposal at PICES-2012 when more details are known. Dr. Yoo stated that NOWPAP was also planning another training course, and would probably submit a proposal at PICES-2012 as well.

Science Board reviewed plans for a PICES Summer School on “*Ocean observing systems and ecosystem monitoring*” to be held August 2013 in Corvallis, USA. It was agreed that the BIO, POC and MONITOR Committees would nominate two members (one from each side of the Pacific) from their respective Committees or subsidiary bodies to serve on a Scientific Steering Committee to work with the principal school organizers and PICES Secretariat. They would also serve on a Selection Committee to review applications. As Dr. Barth, one of the school's organizers, is also a member of MONITOR, it was suggested he could also serve as MONITOR's representative on the Selection Committee, and MONITOR would just need to nominate one additional member.

Action:

- Dr. Qiao to submit a written proposal for a training course to Science Board for discussion at PICES-2012.
- Drs. Tsuda, Chang and Sugisaki to discuss with their respective Committees scientists to serve on the PICES Summer School selection committee and submit nominations to the Secretariat by June 18.
- Secretariat to contact PICES Summer School organizer, Dr. Barth, to inquire what level of funding will be required of PICES.

Potential training courses

Science Board discussed the possibility of PICES running its own capacity building program, similar to that of ICES. Members were reserved in their support, citing travel costs and lack of PICES experience in this field as two issues. To understand what is entailed in starting up and running such a program, it was suggested that PICES inquire about ICES' experience at PICES-2012, and then form a study group to look at the feasibility.

Action: Secretariat to contact Dr. Adi Kellermann to prepare a presentation on ICES' training courses for Science Board meeting at PICES-2012.

AGENDA ITEM 14

PICES Visiting Scientist Program

F&A Committee Chair, Ms. Patricia Livingston, presented a brief overview on the establishment of a PICES Visiting Scientist Program, approved by Governing Council in 2001. The expectation was that the Program would commence in 2002 and would be closely linked to the development of the North Pacific Ecosystem Status Report, but PICES never advertised for a Visiting Scientist and the Program fell dormant. With the implementation of the FUTURE program, the plan is to resurrect the Program to provide resources to help develop FUTURE products. Science Board was receptive to the idea, and discussed such issues as defining explicit tasks, to how to advertise the opening, and who or what agencies to direct it to.

Action:

- Ms. Livingston to revise wording for the Program posting
- Science Board to draw up a list of tasks and products

AGENDA ITEM 15

Wooster and POMA awards

Science Board met *in camera* to select the 2012 Wooster Award recipient (two nominations with one rolled over from 2011) and to evaluate recommendations from MONITOR and TCODE for the 2012 PICES Ocean Monitoring Service Award (POMA; no new nominations; three rolled over from 2011). The recipient for each award will be announced at the Opening Session of PICES-2012 in Hiroshima, Japan. Remaining nominations for the POMA will be rolled over to 2013 for consideration at the next inter-sessional Science Board meeting

AGENDA ITEM 16

Election of Science Board Chairman-elect

Science Board reviewed the criteria for electing a Science Board Chairman one year in advance of his/her taking office (termed Science Board Chairman-elect). Although it is not mandatory to have a Chairman-elect, the rationale for having one is to facilitate the continuity of Science Board business by giving the incoming Science Board Chairman the opportunity to understand the job. Dr. Yoo's 3-year term will be up in 2013. The nominee can be any scientist from PICES member countries. Nominations must be received by the Executive Secretary at least 60 days prior to the beginning of the Annual Meeting where the election will occur.

Action:

- Secretariat to advertise for nominations for Science Board Chairman-elect position
- Science Board to vote for Science Board Chairman-elect at PICES-2012

ISB-2012

AGENDA ITEM 17

Venue and dates of ISB-2013 and potential concurrent workshops

Science Board agreed to accept Russia's invitation to have an inter-sessional Science Board meeting in 2013. Venues in eastern and western Russia were discussed. The latter would provide an opportunity to hold a joint PICES/ICES workshop to stimulate activity under the new Framework for PICES-ICES Scientific Cooperation.

Action:

- Secretariat to communicate with Russian contacts to set the venue
- Drs. Yoo and Anne Hollowed to discuss a workshop theme and topics with ICES colleagues

AGENDA ITEM 18

Possible PICES-sponsored conferences/symposia in 2013 and beyond

Expert groups that will organize future symposia

Dr. Makino informed Science Board that he would discuss setting a date for a symposium organized by S-HD at its first meeting at PICES-2012. It was pointed out that PICES would likely be co-sponsoring the 3rd Symposium on “*Effects of climate change on the world's oceans*” in 2016 to be tentatively hosted by the Oceanographic Institute of the Universidade de São Paulo, Brasil (see Agenda Item 5c).

FUTURE Open Science Meeting

Science Board agreed to set 2014 as the date to hold a FUTURE Open Science Meeting. This will allow an opportunity to get input from outside of PICES on filling any gaps and making corrections before final FUTURE products are produced.

Action:

- FUTURE AP Chairmen and Science Board Chairman to consider meeting topics for discussion at PICES-2012;
- Secretariat to look for an OSM venue.

AGENDA ITEM 19

Status of PICES-2013, Canada theme and venue

The Executive Secretary told Science Board that Canada will host PICES-2013 in Nanaimo, Canada, from October 11–20, 2013. The venue is the newly constructed Vancouver Island Conference Centre. There are minor concerns about accommodation that still needed to be addressed, as there is only one large hotel near the venue.

It is the responsibility of Science Board to determine a theme for scientific activities at each Annual Meeting. At PICES-2011, Canada submitted its views on a suitable theme for PICES-2013 in a document entitled “communicating forecasts, uncertainty and consequences of ecosystem change to society”. As Science Board had not discussed or developed a draft theme prior to the intersessional meeting, and because there was insufficient time remaining to develop a theme in Busan, a delay was becoming apparent. To stimulate discussion, Dr. McKinnell volunteered to prepare a draft immediately after the inter-sessional meeting and circulate it to Science Board.

Action: Dr. McKinnell to prepare a draft for the PICES-2013 theme and circulate to Science Board for comments by the end of May.

AGENDA ITEM 20

Committee Action Plans

Due to lack of time, Dr. Yoo recommended that Committee/FUTURE Chairs circulate their draft Action Plans within their respective Committees for review and comments and then send them to Science Board for final review prior to PICES-2012.

Action:

- Committee/FUTURE Chairs to circulate their respective Action Plans to their members for comments before submitting them to the Secretariat for inclusion in the Science Board briefing book.

AGENDA ITEM 21

Other business

none

ISB Endnote 1

Science Board participation list

Members

Kyung-Il Chang (Chairman, POC)
 Libby Logerwell (Chair, FIS)
 Fangli Qiao (Representative of the People's Republic of China)
 Hiroaki Saito (Chairman, AP-COVE)
 Igor Shevchenko (Representative of Russia)
 Hiroya Sugisaki (Chairman, MONITOR)
 Thomas Therriault (Chairman, AP-AICE)
 Atsushi Tsuda (Chairman, BIO)
 Sinjae Yoo (Chairman, Science Board)

Invitees

Harold (Hal) Batchelder (AP-SOFE)
 Patricia Livingston (F&A)
 Mitsutaku Makino (MEQ; S-HD)
 Ian Perry (WG 28, S-HD)
 Hiroyuki Shimada (F&A)
 Vera L. Trainer (S-HAB)
 Mark Wells (S-HAB)
 Ungyul Yi (observer, Korea)

Other

Lev Bocharov (PICES Chairman)
 Alexander Bychkov
 Skip McKinnell
 Rosalie Rutka

ISB Endnote 2

Science Board meeting agenda

Thursday, May 24, 2012 (14:00 – 18:00)

1. Welcome and adoption of agenda (Yoo)
2. Expert groups with issues (All)
3. Interactions with other organizations (All)
4. Status of proposed publications (Secretariat)
5. Status of proposed inter-sessional workshops/symposia (All)

ISB-2012

Friday, May 25, 2012 (09:00 – 18:00)

6. Expert groups with issues (continued, All)
7. Report on newly formed expert groups (Co-Chairs of expert groups)
8. New PICES/MAFF project: Objectives and implementation strategy (Perry/Makino)
9. Mid-year reports from Scientific and Technical Committees (Committee Chairs)
10. Presentation and discussion of current status of the FUTURE APs (AP Chairs)
11. Implementation of Science Board recommendations and Governing Council decisions from PICES-2011, Khabarovsk (Yoo)
12. Status of planning for PICES-2012, Hiroshima, Japan (Secretariat)
13. Capacity building/Plan for PICES summer school in 2013 (Yoo)
14. PICES Visiting Scientist Program (Livingston)
15. Wooster and POMA awards (All)
16. Election of Science Board Chairman-elect
17. Venue and dates of ISB-2013 and potential concurrent workshops (Yoo)
18. Possible PICES-sponsored conferences/symposia in 2013 and beyond (All)
19. Status of PICES-2013, Canada theme and venue (Secretariat)
20. Committee Action Plans (Committee Chairs)
21. Other business